Efficacy Review

Date: May 3, 2010

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5-3-10

Risk Manager Rev.: Ann Sibold (PM Richard Gebken)

Products: MAXFORCE FC Fire Ant Bait

EPA Reg. #: 432-1433

A.I.'s: Fipronil (0.00045%)

Decision #s: 400723

DP #s: 358336

Submission: 570, Conditional Registration Follow-up, RD Science Review

MRIDs: Submitted: 47543101, 47543102, 47543103, 47543104, 47543105

GLP: No

MRID 47543101

Title: Evaluation of the Efficacy of the Maxforce FC Fire Ant Bait Against Field Colonies of the Red Imported Fire Ant, (*Solenopsis invicta*).

Guideline: OPPTS 810.3100, 810.3500

Materials and Methods: Field study conducted in Gainesville, FL in a pasture with active RIFA colonies. The test was part of a larger efficacy evaluation with plots of 5 products and 1 untreated control. Each treatment was applied over 1 acre, within which 3 plots were sampled as replicates (non-randomized). Pretreatment ratings were made several days prior to the application, using the USDA population index method, and whether or not immature stages are present at the time of shovel prodding of each mound. Post-treatment evaluations were made at 3, 7, 14 days, and 1, 2, and 3 months post-treatment.

Study Summary of the Results:

1. Mound reduction in the Maxforce plots averaged 69% after 1 month, and 97% after 2 months, demonstrating adequate RIFA control within 2 months, in comparison to increasing mound activity in control plots.

Entomologist's Observations/Discussion:

Kills claims are supported based on the reduction of active mounds after a broadcast treatment of the product to an infested grass pasture landscape.

MRID 47543102

Title: Evaluating Maxforce Fire Ant Bait as a Mound Treatment for Red Imported Fire Ants.

Guideline: OPPTS 810.3100, 810.3500

Materials and Methods: A field study conducted in Dallas, TX, evaluating Maxforce as a fire ant mound treatment. A field with active mounds (all 2-3 on the USDA scale, pretreatment) were selected for treatment plots. 4 treatments were deployed, with 40 reps of each treatment in a completely randomized design. Maxforce treatments were applied as a mound treatment with granules applied within 1 m of the active mound. Two Maxforce treatments were deployed in the study, one where the mound was disturbed prior to application and the other where the mound was left undisturbed. An untreated control was also part of the study. All selected mounds were at least 6 m apart. A 3 m radius around each mound was marked and satellite mounds within this radius were recorded for the study. Observations on activity (using the USDA scale) were made on 0, 3, 7, 14, 28, and 56 days after treatment. Ant foraging activity was rated on 0 and 56 days after treatment using plastic vials baited with hot dog slice, within 3 m of the mound.

Study Summary of the Results:

2. Reduction in the number of active mounds was not significant as time went on, due to the reduction in ant activity among the control group.
3. Maxforce bait application did reduce ant activity, but the extent of control is difficult to assess given high mortality/cessation of activity in control plots.

Entomologist's Observations/Discussion:

Interpretation of this data set is difficult, with regard to mound applications.

MRID 47543103

Title: Comparison of Broadcast Treatments of Various Fire Ant Baits on Red Imported Fire Ant Colonies at Ray Roberts Park, Pilot Point, TX

Guideline: OPPTS 810.3100, 810.3500

Materials and Methods: Field study conducted in Pilot Point, TX to assess broadcast applications on a large greenbelt area. 24 square plots (100' x 100') were created, within which a 40' radius was marked for sampling, within which there were a minimum of 10 active fire ant mounds. 8 treatments were applied with 3 plots (reps) per treatment. Evaluation of mound activity was done at pretreatment, and again at 3 days, 1, 2, 3, 4, 6 weeks, 2, and 3 months post-treatment. Foraging was measured using a hot dog bait test. A similar study was also conducted near Houston.

Study Summary of the Results:

4. Maxforce treatment reduced ant mounts approximately 50-80% at 4-6 weeks after application.
5. Foraging reduction was approximately 80% at 6 weeks after treatment

Entomologist's Observations/Discussion:

While not fully adequate to support fire ant claims, Maxforce bait performed as the numerically best bait product in what appears to be a very high pressure site for fire ants.

MRID 47543104

Title: Efficacy of Ceasefire Ant Bait Compared to Industry Standards.

Guideline: OPPTS 810.3100, 810.3500

Materials and Methods: Field study in Ft. Lauderdale, FL, applying various treatments to 3 m x 3 m plots (4 reps each) with fire ant activity evaluated at 3, 7, and 14 days after application, and then monthly thereafter.

Study Summary of the Results:

6. Maxforce bait application reduced fire ant activity to 0.0 by 1 month after treatment, with a rating of 1.0 in the control

Entomologist's Observations/Discussion:

Data is adequate to support fire ant claims for broadcast applications.

MRID 47543105

Title: Field Trial of Modified Fipronil Bait – Palestine Airport 2006.

Guideline: OPPTS 810.3100, 810.3500

Materials and Methods: Field study conducted in east central Texas. Plots (200' x 55' rectangles) were established for various treatments on grassy areas near runways, with assessments made weeks to months later after application.

Study Summary of the Results:

7. 80-100% reduction in active mounds was achieved within 2 months of treatment with the fipronil bait product.

Entomologist's Observations/Discussion:

Data is adequate to support fire ant claims for broadcast applications.

Overall Review of Label Claims and Directions:

Based upon submitted efficacy data, claims are supported for broadcast applications of Maxforce bait. While data for mound treatment was not fully adequate to support that use pattern, as outlined in the Agency's product performance guideline, the efficacy was shown to be comparable to a number of other products registered for that same use pattern. Furthermore, efficacy of fipronil, as an active ingredient, against imported fire ants is well supported. Also as an alternative to other registered products, fipronil baits (applied at very low levels of a.i. per acre) fill an important niche in integrated red imported fire ant control programs. The submitted data is adequate to support all the red imported fire ant claims presently on the product label.